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10/820,555	04/08/2004	Damien Convert	CU-4420 JPK	8353

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EXAMINER	
MANCHO, RONNIE M	

ART UNIT	PAPER NUMBER
3663	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/820,555	CONVERT ET AL.	
	Examiner	Art Unit	
	RONNIE MANCHO	3663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _18 October 2007_.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-8 and 10-28_ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-8, 10-28_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-8, 10 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, lines 2 and 3, applicant recites, "an actual track event". In line 4, applicant again recites in a second occurrence, "an actual track event". The claim limitations are not distinct disclosed. Applicant may change the second of "an actual track event" to --the actual track event-- to overcome the rejection.

The rest of the claims are rejected for depending on a rejected base claim.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an

international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 1-8, 10-28 are rejected under 35 U.S.C. 102(e) as being anticipated by Birkelback et al (7188057).

Regarding claim 1, Birkelback et al (abstract, col. 4, lines 30-67; col. 5, lines 13-67; cols. 6-14; figs. 1-4) disclose a method of simulating on a computer by the execution of program instructions and displaying on a display device, a visual simulation of an actual track route (abstract), the method comprising:

specifying to the computer, a track event along the actual track route *(user creates topography, configuration of rail track, wayside signals, group of track lines, direction of travel, etc specified in computer database; col. 5, lines 14-65*);

reading, from a memory device coupled to the computer, a track event database to obtain a software model of a section of track and a software model of at least one track event along the actual track route such that when said program instructions are executed by the computer, the software model of the section of track and the software model of the at least one track event present a visual simulation of the section of track and a visual simulation of the at least one track event on a visual display device coupled to the computer (*the graphics engine reads data from a database, the data including a track section, a track event, wherein the track event comprises track switches, curves, track grade or topography, etc; col. 4, lines 40-46; col. 3, lines 38-56; col. 5, lines 14-34; abstract*),

wherein images presented on said display device by said computer, replicate what an engineer in a train locomotive would see as a locomotive moves along a section of track for which a software model of the track section and a software model for said track event were read from said memory device (abstract; col. 2, lines 4-20).

Regarding claim 2, Birkelback et al (abstract, col. 4, lines 30-67; col. 5, lines 13-67; cols. 6-14; figs. 1-4) disclose the method of claim 1 wherein the step of specifying a track event along an actual train route includes the step of specifying the location of the track event by the latitude and longitude of the track event (fig. 6).

Regarding claim 3, Birkelback et al (abstract, col. 4, lines 30-67; col. 5, lines 13-67; cols. 6-14; figs. 1-4) disclose the method of claim 2 further including the step of:

specifying to the computer, a terrain database from which to read terrain information (topology or grades, col. 3, lines 38-56) for the terrain proximate to the track event;

reading terrain information for the track event from the terrain database (abstract; col. 4, lines 40-46);

reading a terrain model database to obtain a software model of the terrain proximate to the track event by which a visual image of a simulation of the terrain can be simulated on the computer (col. 3, lines 38-56); and

said computer presenting a simulation of the terrain proximate to the track event (col. Col. 3, lines 38-56; col. 4, lines 4, lines 40-46).

Regarding claim 4, Birkelback et al (abstract, col. 4, lines 30-67; col. 5, lines 13-67; cols. 6-14; figs. 1-4) disclose the method of claim 1 further including the step of:

storing the software model of the track event in a simulation file.

Regarding claim 5, Birkelback et al (abstract, col. 4, lines 30-67; col. 5, lines 13-67; cols. 6-14; figs. 1-4) disclose the method of claim 1 further including the steps of:

reading a surface coverage database from which to obtain information on the surface coverage of terrain surrounding the track event (col. 3, lines 38-56);

reading a surface coverage simulation database to obtain a software model of the surface coverage surrounding the track event and by which the surface coverage surrounding the track event can be simulated on the computer (col. 3, lines 38-56) and

the computer generating a simulation of the surface coverage surrounding the track event (col. 3, lines 38-56).

Regarding claim 6, Birkelback et al (abstract, col. 4, lines 30-67; col. 5, lines 13-67; cols. 6-14; figs. 1-4) disclose the method of claim 3 wherein the information input to said computer from the terrain database includes information from a U.S. Geological Survey database (applicant admits that is it prior art).

Regarding claim 7, Matheson et al (abstract, figs. 2-11; col. 31, lines 32-65; col. 27, lines 45-67; col. 28, lines 10-24) disclose the method of claim 2 wherein said actual location includes the latitude and longitude coordinates of track events.

Regarding claim 8, Birkelback et al (abstract, col. 4, lines 30-67; col. 5, lines 13-67; cols. 6-14; figs. 1-4) disclose the method of claim 3 wherein the proximate terrain information includes the elevation (col. 3, lines 38-56) of the location of the first track event, and climatic information for the location of the first track event

Regarding claim 10, Birkelback et al (abstract, col. 4, lines 30-67; col. 5, lines 13-67; cols. 6-14; figs. 1-4) disclose the method of claim 1 wherein said first track event includes at least one of:

a section of straight track (col. 3, lines 38-56);

a track switch (col. 3, lines 38-56);

a train signal or sign (col. 5, lines 14-65);

a track crossing (col. 3, lines 38-56);

a track curve; a track grade (col. 3, lines 38-56);

a bridge ;

a platform;

a tunnel;

an over-head power transmission.

Regarding claim 11, Birkelback et al (abstract, col. 4, lines 30-67; col. 5, lines 13-67; cols. 6-14; figs. 1-4) disclose a method of displaying on a computer, visual images that simulate what a person in a train locomotive would see from the locomotive as it moves along an actual track route, the visual images being generated by the execution of computer program instructions, the method comprised of the steps of:

specifying to the computer a track event along an actual track route to the computer *(user creates topography, configuration of rail track, wayside signals, group of track lines, direction of travel, etc specified in computer database; col. 5, lines 14-65*);

specifying the actual location of the track event (col. 3, liens 38-56; col. 14, lines 3-21);

reading from a memory device, a model of the track event from a track event model database to obtain there from a software model of the track event by which a visual simulation of the track event can be generated by the computer (*the graphics engine reads data from a database, the data including a track section, a track event, wherein the track event comprises track switches, curves, track grade or topography, etc; col. 4, lines 40-46; col. 3, lines 38-56; col. 5, lines 14-34; abstract*); and

when said computer program instructions are executed by the computer, the computer generates a visual simulation of a section of the actual track route and a visual simulation of the track event on a visual display device, using the software model of the track event (*col. 4, lines 40-55; col. 3, lines 38-56; col. 5, lines 14-34; abstract*);

the display of the visual simulation of the track event including a visual simulation of the actual terrain proximate to the track event, said display of the visual simulation of the actual terrain along the actual track route (*col. 4, lines 40-55; col. 3, lines 38-56; col. 5, lines 14-34; abstract*).

Regarding claim 12, Birkelback et al (abstract, col. 4, lines 30-67; col. 5, lines 13-67; cols. 6-14; figs. 1-4) disclose the method of claim 11 further including the step of: storing the software model of the track event in a simulation file.

Regarding claim 13, Birkelback et al (abstract, col. 4, lines 30-67; col. 5, lines 13-67; cols. 6-14; figs. 1-4) disclose the method of claim 11 further including the steps of:

the computer obtaining surface coverage information for terrain proximate to the track even (cols. 3, lines 38-56);

the computer obtaining a software model for terrain proximate to the track event; and the computer generating a simulation of the surface coverage proximate the track event (cols. 3, lines 38-56).

Regarding claim 14, Birkelback et al (abstract, col. 4, lines 30-67; col. 5, lines 13-67; cols. 6-14; figs. 1-4) disclose the method of claim 11 wherein said actual location includes the latitude and longitude of the track event.

Regarding claim 15, Birkelback et al (abstract, col. 4, lines 30-67; col. 5, lines 13-67; cols. 6-14; figs. 1-4) disclose the method of claim 11 wherein the proximate terrain information includes the elevation (col. 3, lines 38-56) of the location of the first track event.

Regarding claim 16, Birkelback et al (abstract, col. 4, lines 30-67; col. 5, lines 13-67; cols. 6-14; figs. 1-4) disclose the method of claim 11 wherein said proximate terrain information includes climatic information for the location of said first track event.

Regarding claim 17, Birkelback et al (abstract, col. 4, lines 30-67; col. 5, lines 13-67; cols. 6-14; figs. 1-4) disclose the method of claim 1 wherein the track event includes at least one of: a section of straight track;

a section of straight track (col. 3, lines 38-56);

a track switch (col. 3, lines 38-56);

a train signal or sign (col. 5, lines 14-65);

a track crossing (col. 3, lines 38-56);

a track curve; a track grade (col. 3, lines 38-56);

a bridge ;

a platform;

a tunnel;

an over-head power transmission.

Regarding claim 18, Birkelback et al (abstract, col. 4, lines 30-67; col. 5, lines 13-67; cols. 6-14; figs. 1-4) disclose a method of simulating in a computer, by the evaluation of program instructions therein, the operation of a train along a track route, the method comprised of the steps of:

identifying the starting and ending points of an actual track route to be simulated (col. 7, line 64 to col. 8, line 11; figs. 4&5);

specifying to the computer, the location and the identity of a track event between the starting and ending points of the track route *(user creates topography, configuration of rail track, wayside signals, group of track lines, direction of travel, etc specified in computer database; col. 5, lines 14-65*);

reading a track event database from a memory device to obtain therefrom a software model of the track event by which the track event can be visually simulated on the computer on a visual display device by the execution of said computer program instructions and the use of said software model of the track event (*the graphics engine uses data from a database, the data including a track section, a track event, wherein the track event comprises track switches, curves, track grade or topography, etc; col. 4, lines 40-46; col. 3, lines 38-56; col. 5, lines 14-34; abstract*);

said computer obtaining from a terrain database, information about the terrain surrounding the track event (*the graphics engine obtains data from a database, the data including a track section, a track event, wherein the track event comprises track switches,*

curves, track grade or topography, etc; col. 4, lines 40-46; col. 3, lines 38-56; col. 5, lines 14-34; abstract); and

said computer presenting on a display device that is coupled to said computer, a visual simulation of the track event, using the software model of the track event and a visual simulation of the terrain information using the information about the terrain surrounding the track event (*col. 4, lines 40-55; col. 3, lines 38-56; col. 5, lines 14-34; abstract*).

Regarding claim 19, Birkelback et al (abstract, col. 4, lines 30-67; col. 5, lines 13-67; cols. 6-14; figs. 1-4) disclose the method of claim 18 further including the steps of:

inputting to the computer, parameters of a train to traverse said track route (*col. 4, lines 40-46; col. 3, lines 38-56; col. 5, lines 14-34; abstract*); and

said computer presenting on a display device, a simulation of the train encountering the track event *col. 4, lines 40-46; col. 3, lines 38-56; col. 5, lines 14-34; abstract*).

Regarding claim 20, Birkelback et al (abstract, col. 4, lines 30-67; col. 5, lines 13-67; cols. 6-14; figs. 1-4) disclose the method of claim 18 further comprised of the step of:

simulating the train's response to the terrain surrounding said track event (*col. 4, lines 40-46; col. 3, lines 38-56; col. 5, lines 14-34; abstract*).

Regarding claim 21, Birkelback et al (abstract, col. 4, lines 30-67; col. 5, lines 13-67; cols. 6-14; figs. 1-4) disclose the method of claim 19 further including the step of:

the computer reading a simulation of the surface coverage of terrain proximate to the first track event (*col. 4, lines 40-46; col. 3, lines 38-56; col. 5, lines 14-34; abstract*).

Regarding claim 22, Birkelback et al (abstract, col. 4, lines 30-67; col. 5, lines 13-67; cols. 6-14; figs. 1-4) disclose the method of claim 18 wherein the information input to said computer from said first database includes information from a U.S. Geological Survey database.

Regarding claim 23, Birkelback et al (abstract, col. 4, lines 30-67; col. 5, lines 13-67; cols. 6-14; figs. 1-4) disclose the method of claim 18 wherein said actual location includes the latitude and longitude coordinates of track events.

Regarding claim 24, Birkelback et al (abstract, col. 4, lines 30-67; col. 5, lines 13-67; cols. 6-14; figs. 1-4) disclose the method of claim 18 wherein said first track event includes at least one of:

a section of straight track;

a track switch;

a train signal;

a track curve;

a track grade;

a bridge;

a platform;

a tunnel;

an over-head power transmission.

Regarding claim 25, Birkelback et al (abstract, col. 4, lines 30-67; col. 5, lines 13-67; cols. 6-14; figs. 1-4) disclose a method of simulating on a computer, by the execution of program instructions thereon, the operation of a train along an actual track route comprised of the steps of:

inputting to the computer, the latitude and longitude coordinates and the identity of a track event along the actual track route *(user creates topography, configuration of rail track, wayside signals, group of track lines, direction of travel, etc specified in computer database; col. 5, lines 14-6)*;

said computer obtaining from a storage device a software model of the track event (*the graphics engine obtains data from a database, the data including a track section, a track event, wherein the track event comprises track switches, curves, track grade or topography, etc; col. 4, lines 40-46; col. 3, lines 38-56; col. 5, lines 14-34; abstract*);

storing in a storage device the software model of the track event in a simulation file *(user creates topography, configuration of rail track, wayside signals, group of track lines, direction of travel, etc specified in computer database; col. 5, lines 14-6)*;

said computer executing program instructions, which use the software model of the track event from the simulation file (*col. 4, lines 40-46; col. 3, lines 38-56; col. 5, lines 14-34; abstract)*; and

the computer displaying a three-dimensional visual simulation of the track event on a display device (*col. 4, lines 40-46; col. 3, lines 38-56; col. 5, lines 14-34; abstract).*

Regarding claim 26, Birkelback et al (abstract, col. 4, lines 30-67; col. 5, lines 13-67; cols. 6-14; figs. 1-4) disclose the method of simulating on a computer, the operation of a train along an actual track route comprised of the steps of:

inputting to said computer, the location and identity of a track event along said track route (*col. 4, lines 40-46; col. 3, lines 38-56; col. 5, lines 14-34; abstract)*;

obtaining a software simulation of the track event from a track event simulation database (*col. 4, lines 40-46; col. 3, lines 38-56; col. 5, lines 14-34; abstract)*;

obtaining terrain information for the location of the track event from a terrain database (*col. 4, lines 40-46; col. 3, lines 38-56; col. 5, lines 14-34; abstract)*;

obtaining local land coverage information for the location of the track event from surface coverage database (*col. 4, lines 40-46; col. 3, lines 38-56; col. 5, lines 14-34; abstract)*;

obtaining a software simulation of the surface coverage surrounding the track event (*col. 4, lines 40-46; col. 3, lines 38-56; col. 5, lines 14-34; abstract)*;

storing the software simulation of the track event in a simulation file (*col. 4, lines 40-46; col. 3, lines 38-56; col. 5, lines 14-34; abstract)*;

storing the software simulation of the surface coverage in the simulation file (*col. 4, lines 40-46; col. 3, lines 38-56; col. 5, lines 14-34; abstract)*;

displaying on a display device, a simulation of the track event Using the software simulation of the track event stored in the simulation file (*col. 4, lines 40-46; col. 3, lines 38-56; col. 5, lines 14-34; abstract)*;

displaying on a display device, a simulation of the terrain around the track event using the software simulation of the surface coverage in the simulation file (*col. 4, lines 40-46; col. 3, lines 38-56; col. 5, lines 14-34; abstract).*

Regarding claim 27, Birkelback et al (abstract, col. 4, lines 30-67; col. 5, lines 13-67; cols. 6-14; figs. 1-4) disclose the method of simulating on a computer, the operation of a train along an actual track route comprised of the steps of:

inputting to said computer, the location and description of a plurality of track events along said track route (*col. 4, lines 40-46; col. 3, lines 38-56; col. 5, lines 14-34; abstract)*;

obtaining from a track event model database, a software model for each track event (*col. 4, lines 40-46; col. 3, lines 38-56; col. 5, lines 14-34; abstract)*;

storing a software model for each track event along the track route in a simulation file (*col. 4, lines 40-46; col. 3, lines 38-56; col. 5, lines 14-34; abstract*);

displaying on a display device, the simulations of the track events along the track route using the software models of track events stored in the simulation file (*col. 4, lines 40-46; col. 3, lines 38-56; col. 5, lines 14-34; abstract).*

Regarding claim 28, Birkelback et al (abstract, col. 4, lines 30-67; col. 5, lines 13-67; cols. 6-14; figs. 1-4) disclose a method of simulating on a computer, the operation of a train along an actual track route comprised of the steps of:

inputting to said computer, the location and description of a plurality of track events along said track route (*col. 4, lines 40-46; col. 3, lines 38-56; col. 5, lines 14-34; abstract*);

obtaining from a track event model database, a software model for each track event (*col. 4, lines 40-46; col. 3, lines 38-56; col. 5, lines 14-34; abstract*);

obtaining from a terrain database, terrain information for each track event along the track route (*col. 4, lines 40-46; col. 3, lines 38-56; col. 5, lines 14-34; abstract*);

storing a software model for each track event along the track route in a simulation file (*col. 4, lines 40-46; col. 3, lines 38-56; col. 5, lines 14-34; abstract*);

storing the terrain information for each track event in the simulation file (*col. 4, lines 40-46; col. 3, lines 38-56; col. 5, lines 14-34; abstract*);

displaying on a display device, the simulations of the track events along the track route using the software models of track events stored in the simulation file and using the terrain information stored in the simulation file (*col. 4, lines 40-46; col. 3, lines 38-56; col. 5, lines 14-34; abstract*).

Response to Arguments

5. Applicant's arguments with respect to claims 1-8, 10-28 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's amendments have overcome the 35 USC 101 rejections to the claims.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Communication

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ronnie Mancho whose telephone number is 571-272-6984. The examiner can normally be reached on Mon-Thurs: 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on 571-272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ronnie Mancho
Examiner
Art Unit 3663

1/30/2008

/Jack W. Keith/

Supervisory Patent Examiner, Art Unit 3663